



CATALOG No. 108

ESTABLISHED 1879
INCORPORATED 1884

CINCINNATI, OHIO, U. S. A.

"JUNIOR" CLAMPS

Strong Malleable Frames and Steel Screws



With New Patented "Speed Grip" Thumb Nut—Combining Speed with Power.

Nos. 557—570—548—555

Stock	Opening	Depth	List, Doz.	Lbs., Doz.
No. 557	1 in.	½ in.	\$1.80	1
No. 570	1½ in.	1⅛ in.	2.80	2¼
No. 548	2 in.	1¼ in.	3.60	4
No. 555 (Deep)	1½ in.	3½ in.	6.30	6½

With Sliding Pin (Vise Type) Handle.

Nos. 558—571—549—550—
551—552



Stock	Opening	Depth	List, Doz.	Lbs., Doz.
No. 558	1 in.	1½ in.	\$2.40	1¾
No. 571	1½ in.	1½ in.	3.00	2½
No. 549	2 in.	1¼ in.	3.60	4
No. 550	3 in.	1⅜ in.	4.50	6
No. 551	4 in.	1⅝ in.	7.20	10½
No. 552	6 in.	1⅞ in.	9.90	16
No. 572 (Deep)	2½ in.	2½ in.	6.30	8
No. 556 (Deep)	2½ in.	4½ in.	9.00	16

Shipment from factory in full packages only. 1" and 1½" (Nos. 557, 570, 558, 571) packed 1 doz. in a box. All other sizes ½ doz. in a box.



SMALL "C" CLAMPS

Strong Malleable Frames and Steel Screws

Used extensively in Aircraft and many other industrial plants. With flat Wing and Riveted Button Tip. Natural Finish.

Nos. 566-568

Stock	Opening	Depth	List, Doz.	Lbs., Doz.
No. 566	1¼ in.	1¼ in.	\$3.00	2½
No. 568	2½ in.	2½ in.	5.40	9¼

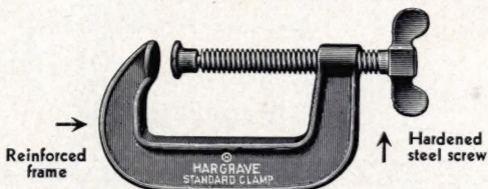
Packed in bulk

PRICES in this Catalog are LIST. Ask for discounts.

STANDARD CARRIAGE CLAMP No. 540

(Trade Name Registered)

EACH CLAMP IS MACHINE TESTED

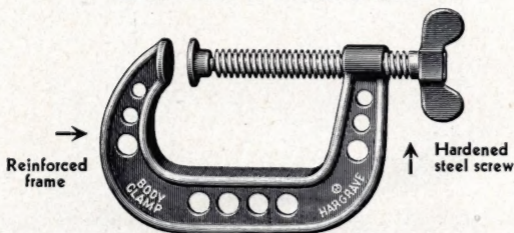


FRAME—Special analysis of malleable iron, shaped to give greatest strength for the weight.

SCREW—Steel, heat-treated to prevent bending or breaking, and battering of threads. "Acme" thread insures long life and permits rapid adjustment.

Furnished with oscillating (ball and socket) tip unless riveted button tip is specified.

Opening	Depth	List, Doz.	Lbs., Doz.	Opening	Depth	List, Doz.	Lbs., Doz.
2½ in.	1¾ in.	\$ 9.00	10	7 in.	3 in.	\$22.00	44
3 in.	1⅞ in.	10.00	12	8 in.	3¼ in.	28.00	53
4 in.	2⅛ in.	12.00	21¾	10 in.	3⅝ in.	36.00	76½
5 in.	2½ in.	15.00	26½	12 in.	3⅞ in.	46.00	95
6 in.	2¾ in.	18.00	31¼	(For comparative strength, see page 9.)			

BODY CLAMP No. 603
EACH CLAMP IS MACHINE TESTED

Deeper and stronger than the Standard Carriage Clamp. Designed especially for automobile body trade and work requiring longer than ordinary reach. Ball and socket tip.

Opening	Depth	List, Doz.	Lbs., Doz.	Opening	Depth	List, Doz.	Lbs., Doz.
3 in.	2¼ in.	\$12.00	18⅞	8 in.	3¾ in.	\$34.00	62
4 in.	2½ in.	15.00	28	10 in.	4 in.	42.00	83
5 in.	3 in.	18.00	33	12 in.	4¼ in.	50.00	101½
6 in.	3⅞ in.	22.00	41	(For comparative strength, see page 9.)			

SUPERCLAMPS—Forged Steel (Patented)

No. 44—REGULAR SERVICE

The No. 44 SUPERCLAMP is approximately the same weight as the Standard Carriage Clamp, but has more than twice the resistance to both tensile and transverse strains.

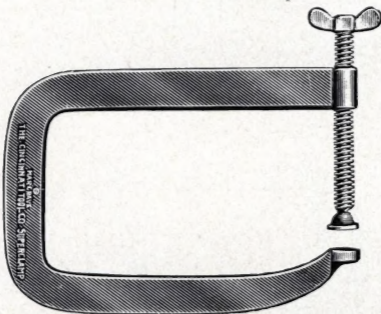
FRAME—High carbon steel, heat-treated, formed by our own process, which permits the use of a much stiffer grade of steel than other methods of forging. Will stand overloads without permanent distortion.

SCREW—Steel, heat-treated; large diameter; powerful "Acme" thread. Oscillating (ball and socket) tip. Full length.

Opening, in..	2	3	4	6	8	10	12
Depth, in.....	1 3/4	2 1/4	2 1/2	2 3/4	3 1/2	3 1/2	3 1/2
List, doz.....	\$18.00	\$20.00	\$24.00	\$28.00	\$40.00	\$56.00	\$68.00
Test Load, lbs.	2200	2400	3000	3700	4500	5400	7200
Approx. Wt.,							
lbs. dozen..	12	19	27	41	65	92	106

(For comparative strength, see page 9.)

No. 44X—DEEP REACH



The Steel SUPERCLAMP can be furnished in any reasonable combination of opening and depth, permitting the user to have a rigid steel clamp exactly suited to his individual requirements.

The following list gives dimensions and list prices on stock sizes. Prices for special sizes are furnished on request.

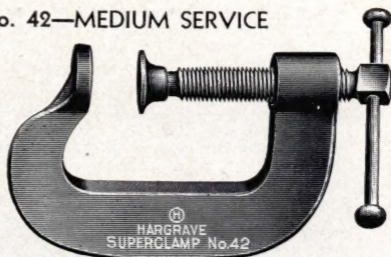
Size, in.....	6 x 8	6 x 15	8 x 12	12 x 16
Opening, in.....	6	6	8	12
Depth, in.....	8	15	12	16
List Price, each.....	\$6.00	\$10.00	\$10.00	\$15.00
Approx. Wt., lbs., each	7	13	13	19
Size of Steel, in.....	1/2x1 1/2	1/2x2	1/2x2	1/2x2
Diameter of Screw, in...	5/8	3/4	3/4	3/4

No. 42—MEDIUM SERVICE

No. 42

FRAME is forged from an extremely stiff steel and heat-treated.

SCREW is hardened steel with N. S. C. thread and Sliding Pin (Vise Type) Handle.



Maximum opening, in.....	4	6	8	10
Minimum opening, in.....	$\frac{5}{8}$	$2\frac{5}{8}$	$4\frac{1}{8}$	$6\frac{1}{8}$
Depth of Throat, in.....	$2\frac{1}{2}$	$2\frac{3}{4}$	$2\frac{3}{4}$	3
Diameter of Screw, in.....	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
Weight, each, lbs.....	$4\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{4}$	$8\frac{1}{2}$
Test Load, lbs.....	8,000	9,000	10,000	11,000
List Price, each.....	\$5.20	\$6.40	\$7.50	\$8.60

Maximum opening, in.....	12	15	18
Minimum opening, in.....	$8\frac{1}{8}$	10	13
Depth of Throat, in.....	3	$3\frac{1}{4}$	$3\frac{1}{4}$
Diameter of Screw, in.....	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{7}{8}$
Weight, each, lb.....	9	$13\frac{1}{2}$	15
Test Load, lbs.....	12,000	13,000	14,000
List Price, each.....	\$10.00	\$12.70	\$16.20

No. 43—WELDER'S CLAMP

WITH ANTI-SPATTER SCREW
(Patented)

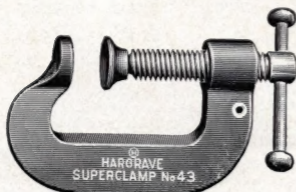
The HARGRAVE No. 43 WELDER'S CLAMP has a SCREW made of an alloy that resists loading.

What few particles of spatter stick to the threads are easily cleaned off by backing the screw through the bearing.

FRAME is Forged Steel, Heat-treated (not malleable iron or cast steel). Note test loads listed below.

No tube over screw to bind or buckle.

Ball and Socket Tip on end of screw, lines up on work that is not square.



(Patent Pending)

Maximum opening, in....	4	6	8	10	12
Minimum opening, in....	0	0	2	3	5
Depth of Throat, in.....	$2\frac{1}{2}$	$2\frac{3}{4}$	$2\frac{3}{4}$	3	3
Diameter of Screw, in....	$\frac{7}{8}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{8}$
Weight, each, lbs.....	$4\frac{3}{4}$	$6\frac{1}{2}$	$7\frac{1}{8}$	$10\frac{1}{8}$	11
Test Load, lbs.....	8,000	9,000	10,000	11,000	12,000
List Price, each.....	\$7.00	\$8.40	\$9.40	\$12.00	\$14.00

(For comparative strength, see page 9.)

SUPERCLAMPS—Forged Steel (Patented)

No. 40—HEAVY SERVICE

FRAME is forged from an extremely stiff steel and heat-treated.

SCREW is hardened steel with N. S. C. thread and Square Head.



Maximum opening, in...	$\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{3}{4}$	$2\frac{1}{4}$
Minimum opening, in...	0	0	$\frac{3}{4}$	$\frac{7}{8}$
Depth of Throat, in.....	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{9}{16}$	$1\frac{7}{8}$
Diameter of Screw, in...	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$
Weight, each, lbs.....	$\frac{1}{3}$	$\frac{3}{4}$	$1\frac{1}{2}$	$2\frac{3}{4}$
Test Load, lbs.....	2,000	4,500	7,000	10,000
List Price, each.....	\$1.15	\$1.75	\$2.50	\$4.00
List, Screw only.....	.30	.35	.40	.70

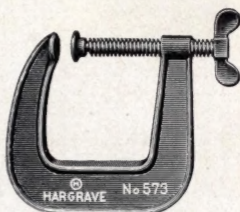
Maximum opening, in...	$3\frac{1}{4}$	$4\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{2}$
Minimum opening, in...	$1\frac{3}{8}$	2	$2\frac{1}{2}$	$3\frac{1}{8}$
Depth of Throat, in.....	$2\frac{3}{4}$	$2\frac{3}{4}$	$3\frac{1}{4}$	$3\frac{1}{4}$
Diameter of Screw, in...	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	1
Weight, each, lbs.....	$4\frac{3}{4}$	7	$9\frac{1}{2}$	10
Test Load, lbs.....	13,000	16,000	19,000	22,000
List Price, each.....	\$5.60	\$7.00	\$9.00	\$11.00
List, Screw only.....	1.00	1.40	1.50	1.90

(For comparative strength, see page 9.)

DEEP CLAMPS

No. 573

A medium weight clamp, similar to the Standard Carriage Clamp, but with a deeper reach. Malleable frame; $\frac{5}{8}$ -inch steel screw, heat-treated, with oscillating (ball and socket) tip.



POWER TESTED

Opening, inches.....	3½	4½	6½
Depth, inches.....	4½	4½	4½
List, dozen.....	\$18.00	\$21.00	\$24.00
Weight, dozen, lbs.....	27¾	32¼	37¼

Packed in bulk.

IMPROVED SPRING CLAMP



Can be applied or removed instantly. Surface of work is tangent to curve of jaw at any opening. Holds firmly without marring the work.

Stock	Opening	List, Doz.	Length	Weight, Doz.
No. 1	1 in.	\$ 5.40	4 in.	1 lb. 9 oz.
No. 2	2 in.	6.70	6 in.	4 lbs. 5 oz.
No. 3	3 in.	13.40	9 in.	8 lbs. 8 oz.

IMPROVED "I" BAR CLAMP No. 640 (Patented)



No Ruined Joints from Slipping

Designed and constructed for the hard every-day grind of production. Its exclusive features of superiority make it the choice of the world's largest users.

BAR—Shaped to stand the greatest strain for the weight. Wide smooth flange will not mar the work.

NOTCHES—Formed in web, leaving the bar full strength as no metal is removed. Spaced $\frac{1}{2}$ in. apart.

SLIDE—Cannot slip or bind. Always easily released. Heavy-tempered steel dog engages the notches making a positive stop and insuring years of service without repairs. Clamping surface, $2 \times 1\frac{1}{8}$ in.

TIP—Has case-hardened thrust bearing for end of screw, practically eliminating wear.

SCREW—Steel, heat-treated, with deep-cut "Acme" thread and long bearing, insuring long life.

SPECIFICATIONS—Bar is high-carbon manganese steel, $1\frac{1}{2} \times \frac{5}{8} \times \frac{1}{8}$ in. Slide, Tip, Frame and Crank are best grade of malleable. Screw is $\frac{5}{8}$ in. diameter. Improved Wood Grip is protected from breakage by steel cap and ferrule. All-metal handle optional.

Opening, feet.	2	2½	3	4	5	6	7
Weight, lbs., pair.	13½	14¾	16	18½	21	23½	26
List, per pair (two clamps)	\$7.60	\$7.80	\$8.00	\$9.00	\$10.00	\$11.00	\$13.00

DEEP REACH "I" BAR CLAMP No. 650

Heavy pattern "I" Bar Clamp with steel bar $2\frac{1}{8} \times \frac{3}{4} \times \frac{11}{16}$ in., clamping surface 3 in. wide, 4 in. high, $\frac{3}{4}$ in. diameter, steel screw. 2 in. from center of screw to bar.

Details of construction are essentially the same as those of No. 640 Clamp described above.

Opening, feet	3	4	5	6	7	8	10
Weight, pair, lbs.	31	35	39	43	47	51	55
List, pair (two clamps)	\$20.00	\$21.50	\$23.00	\$25.00	\$27.00	\$30.00	\$36.00

ALL METAL "T" HANDLE

This all-metal crank handle can be supplied on all clamps having either $\frac{5}{8}$ in. or $\frac{1}{2}$ in. diameter screws.



NEW ADJUSTABLE Nos. 415—425



PERFECTION Nos. 440—450

(Trade Name Registered)



These Clamps are made in two patterns—regular and heavy. The regular pattern has clamping surfaces of jaws 2 in. deep, $1\frac{7}{8}$ in. wide, $\frac{5}{8}$ in. screw. The clamping surfaces of the heavy pattern are $2\frac{1}{4} \times 2\frac{1}{4}$ in., $\frac{3}{4}$ in. screw.

The bar is high carbon manganese spring steel giving great strength. Crank, frame, tip and slide are of the best grade of malleable iron. Dog for slide is tempered steel.

Nos. 415—440

With $1\frac{1}{2} \times \frac{1}{4}$ in. Bar—

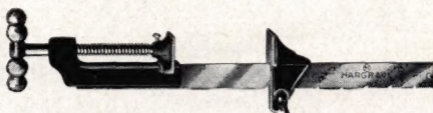
(Reg. Pattern)		Each	Pair
Opening			
2 ft.	.....	\$ 3.80	\$ 7.60
$2\frac{1}{2}$ ft.	.....	3.90	7.80
3 ft.	.....	4.00	8.00
4 ft.	.....	4.50	9.00
5 ft.	.....	5.00	10.00
6 ft.	.....	5.50	11.00

Nos. 425—450

With $1\frac{3}{4} \times \frac{3}{8}$ in. Bar—

(Hvy. Pattern)		Each	Pair
Opening			
3 ft.	.....	\$ 8.25	\$16.50
4 ft.	.....	8.50	17.00
5 ft.	.....	9.00	18.00
6 ft.	.....	9.50	19.00
8 ft.	.....	11.00	22.00
10 ft.	.....	14.00	28.00

JOINERS' CLAMP No. 458



Our Joiners' Clamp is intended for narrow gluing and clamping where speed and rapidity of handling are more necessary than power. High Carbon Manganese Steel Bar $1\frac{1}{8} \times \frac{3}{16}$ in.

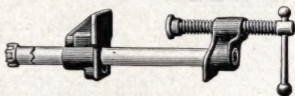
Opening	Each	Pair
1 ft.	\$3.30	\$6.60
$1\frac{1}{2}$ ft.	3.40	6.80
2 ft.	3.50	7.00
$2\frac{1}{2}$ ft.	3.60	7.20

CLAMP FIXTURES

Easy to assemble. Can be applied to any odd length of pipe. We recommend black iron pipe, extra heavy for ordinary clamping and double extra heavy where greater pressure is required.

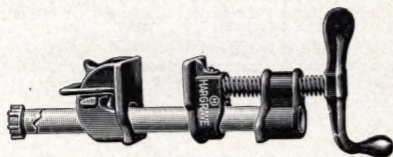
Slide will not slip under pressure and will not stick when pressure is released.

No. 620
Fits $\frac{1}{2}$ -in. Pipe



Malleable iron parts, steel screw, $\frac{1}{2}$ -in. diameter, fitted with $\frac{1}{8}$ -in. diameter tip; clamping surface of slide is $1\frac{1}{2}$ in. wide, $1\frac{3}{8}$ in. high.

No. 620 Fixtures (without pipe). Dozen sets.....\$18.00

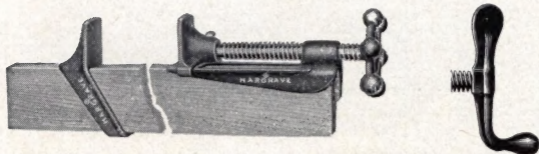


No. 610
Fits $\frac{3}{4}$ -in. Pipe

Malleable iron parts, steel screw, $\frac{5}{8}$ in. diameter. Clamping surfaces, $1\frac{7}{8}$ in. wide, $1\frac{7}{8}$ in. high.

No. 610 Fixtures (without pipe). Dozen sets.....\$33.00

No. 615—Fits $1\frac{1}{8}$ " x $2\frac{1}{4}$ " Wood Bar

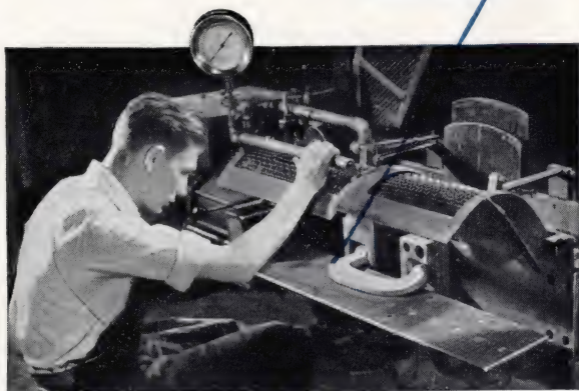


Quickly and easily applied to wood bar, any length. Malleable iron parts, steel screw, $\frac{1}{2}$ in. diameter, heat-treated. Clamping surfaces $1\frac{1}{2}$ in. wide, $1\frac{1}{8}$ in. high.

No. 615 (with Wheel Handle). Dozen sets.....\$15.00

No. 615-18 $\frac{1}{2}$ (with "T" Handle). Dozen sets..... 15.00

Individually Tested



Hydraulic Clamp Tester, which quickly and accurately applies loads to 30,000 lbs. (15 tons). Each HARGRAVE Standard Clamp, Body Clamp, and Superclamp is tested to more than its rated load. HARGRAVE Steel Bar Clamps are frequently tested to insure their efficiency.

This Tester is also useful in experimental work and in making comparative tests.

Space does not permit us to give the TEST LOAD which is applied to all sizes of each pattern. However, to enable you to judge which is best suited for any particular operation, we give number of pounds applied in production test of one popular size of each as follows:

No. 552—6-in. Junior Clamp.....	800 lbs.
No. 540—6-in. Standard Carriage Clamp.....	2300 lbs.
No. 603—6-in. Body Clamp.....	2500 lbs.
No. 44—6-in. Forged Steel Superclamp.....	3700 lbs.
No. 42—6-in. Forged Steel Superclamp.....	9000 lbs.
No. 40—6½-in. Forged Steel Superclamp.....	22000 lbs.

Load applied to other sizes is in proportion to size and weight of the Clamp. TEST LOAD for each Clamp is merely the number of pounds strain to which it has been tested, to discover any defect. Each Clamp will actually stand more.

See CHISEL TEST on page 17.

QUICK CLAMPS (Patented)

Especially useful in pattern making, boat and ship building, automobile body, airplane and parlor frame work.

The patented Clutch will not slip or bind. Always easily released by hand. Bar and screw are steel, other parts are malleable.

"DEPTH" IS DISTANCE FROM CENTER OF SCREW TO BAR

Nos. 498—500—514 Patterns (Movable Frame, Stationary Foot)

Nos. 499—501—503 Patterns (Stationary Frame, Movable Foot)



No. 498

Bar, 1 x $\frac{1}{8}$ in. Depth, 2 in.		
Opening, Inches	List, Dox.	Approx. Wt., Doz.
4	\$24.00	26 $\frac{1}{4}$ lbs.
6	24.00	28 $\frac{1}{2}$ lbs.
8	25.00	30 $\frac{3}{4}$ lbs.
12	27.00	35 $\frac{1}{4}$ lbs.
18	30.00	42 lbs.
24	33.00	48 $\frac{3}{4}$ lbs.
30	36.00	55 $\frac{1}{4}$ lbs.

No. 499

Bar, 1 x $\frac{1}{8}$ in. Depth, 2 in.		
Opening, Inches	List, Dox.	Approx. Wt., Doz.
4	\$24.00	26 $\frac{1}{4}$ lbs.
6	24.00	28 $\frac{1}{2}$ lbs.
8	25.00	30 $\frac{3}{4}$ lbs.
12	27.00	35 $\frac{1}{4}$ lbs.
18	30.00	42 lbs.
24	33.00	48 $\frac{3}{4}$ lbs.
30	36.00	55 $\frac{1}{4}$ lbs.

No. 500

Bar, 1 $\frac{1}{2}$ x $\frac{1}{4}$ in. Depth, 2 $\frac{1}{2}$ in.		
Opening, Inches	List, Dox.	Approx. Wt., Doz.
4	\$30.00	40 $\frac{3}{4}$ lbs.
6	30.00	43 $\frac{1}{2}$ lbs.
8	31.00	46 $\frac{1}{4}$ lbs.
12	33.00	51 $\frac{3}{4}$ lbs.
18	36.00	60 lbs.
24	39.00	68 $\frac{1}{4}$ lbs.
30	42.00	76 $\frac{1}{2}$ lbs.
36	45.00	84 $\frac{3}{4}$ lbs.

No. 501

Bar, 1 $\frac{1}{2}$ x $\frac{1}{4}$ in. Depth, 2 $\frac{1}{2}$ in.		
Opening, Inches	List, Dox.	Approx. Wt. Doz.
4	\$30.00	40 $\frac{3}{4}$ lbs.
6	30.00	43 $\frac{1}{2}$ lbs.
8	31.00	46 $\frac{1}{4}$ lbs.
12	33.00	51 $\frac{3}{4}$ lbs.
18	36.00	60 lbs.
24	39.00	68 $\frac{1}{4}$ lbs.
30	42.00	76 $\frac{1}{2}$ lbs.
36	45.00	84 $\frac{3}{4}$ lbs.

No. 514

Especially Designed for
Heavy Work

Bar, 1 $\frac{3}{4}$ x $\frac{3}{8}$ in. Depth, 3 in.		
Opening, Inches	List, Dox.	Approx. Wt., Doz.
6	\$56.00	78 $\frac{1}{2}$ lbs.
8	58.00	83 lbs.
12	62.00	92 lbs.
18	68.00	105 $\frac{1}{2}$ lbs.
24	74.00	119 lbs.
36	86.00	146 lbs.
48	98.00	173 lbs.
60	110.00	200 lbs.

No. 503

Bar, 1 $\frac{3}{4}$ x $\frac{3}{8}$ in. Depth, 4 $\frac{1}{2}$ in.		
Opening, Inches	List, Dox.	Approx. Wt., Doz.
6	\$56.00	70 $\frac{1}{2}$ lbs.
8	58.00	75 lbs.
12	62.00	84 lbs.
18	68.00	97 $\frac{1}{2}$ lbs.
24	74.00	111 lbs.
36	86.00	138 lbs.
48	98.00	165 lbs.

QUICK CLAMPS (Patented)

Hargrave Quick Clamps can be instantly applied or removed from the work; take up less room and save a great amount of time over ordinary clamps.

No. 494—Light Weight

No. 506—Med. Weight

(Movable Frame, Stationary Foot, Wood Handle on Screw.)



No. 494 (Light)

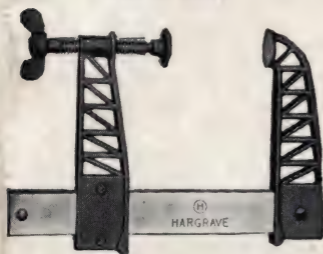
Bar, $\frac{1}{8}$ x $\frac{5}{8}$ in.	Depth, 2 in.	
Opening, Inches	List, Doz.	Approx. Wt., Doz.
4	\$15.00	7 $\frac{3}{4}$ lbs.
6	15.50	8 $\frac{1}{2}$ lbs.
8	16.00	9 $\frac{3}{8}$ lbs.
12	17.50	11 lbs.
18	20.00	13 $\frac{1}{2}$ lbs.
24	22.50	16 $\frac{1}{8}$ lbs.

No. 506 (Medium)

Bar, 1 x $\frac{5}{8}$ in.	Depth, 3 $\frac{1}{2}$ in.	
Opening, Inches	List, Doz.	Approx. Wt., Doz.
6	\$26.00	34 lbs.
8	27.00	36 $\frac{1}{4}$ lbs.
12	29.00	40 $\frac{3}{4}$ lbs.
18	32.00	46 $\frac{1}{2}$ lbs.
24	35.00	52 $\frac{1}{4}$ lbs.
30	38.00	58 lbs.

Nos. 512-502-508-510 Patterns

(Movable Frame, Stationary Foot, Wing on Screw)



No. 502

Bar, 1 $\frac{3}{4}$ x $\frac{3}{8}$ in.	Depth, 4 $\frac{1}{2}$ in.	
Opening, Inches	List, Doz.	Approx. Wt., Doz.
6	\$56.00	70 $\frac{1}{2}$ lbs.
8	58.00	75 lbs.
12	62.00	84 lbs.
18	68.00	97 $\frac{1}{2}$ lbs.
24	74.00	111 lbs.
36	86.00	138 lbs.
48	98.00	165 lbs.
60	110.00	192 lbs.

No. 512

Bar, 1 $\frac{1}{2}$ x $\frac{1}{4}$ in.	Depth, 4 in.	
Opening, Inches	List, Doz.	Approx. Wt., Doz.
6	\$34.00	47 $\frac{1}{4}$ lbs.
8	35.00	50 lbs.
12	37.00	55 $\frac{1}{2}$ lbs.
18	40.00	63 $\frac{3}{4}$ lbs.
24	43.00	72 lbs.

No. 508

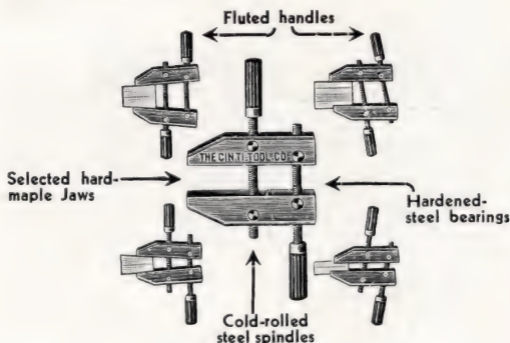
Bar, 1 $\frac{3}{4}$ x $\frac{3}{8}$ in.	Depth, 6 in.	
Opening, Inches	List, Doz.	Approx. Wt., Doz.
6	\$62.00	90 lbs.
8	64.00	95 lbs.
12	68.00	105 lbs.
18	74.00	119 lbs.
24	80.00	133 lbs.
36	92.00	147 lbs.

No. 510

Bar, 2 x $\frac{1}{2}$ in.	Depth, 9 in.	
Opening, Inches	List, Doz.	Approx. Wt., Doz.
6	\$100.00	180 lbs.
8	104.00	187 lbs.
12	112.00	201 lbs.
18	124.00	222 lbs.
24	136.00	243 lbs.

STEEL SPINDLE HAND SCREWS

Each Jaw is TESTED



Strong—Durable—Satisfactory

HARGRAVE Hand Screws are conventional in size and proportions, but have refinements of construction found in no other Hand Screw.

SPINDLES—Cold-drawn steel. "Acme" thread is longer wearing and has less frictional resistance than the "V" thread commonly used.

BEARINGS—Hardened steel, adding greatly to the life of the Hand Screw.

JAWS—Selected maple, properly seasoned and oiled.

HANDLES—Fluted, giving good grip under all conditions.

Packed as follows: Four smaller sizes (6, 8, 10 and 12 in.), one-half dozen in a carton; three larger sizes (14, 16 and 18 in.), one-third dozen in a carton.

Adjustable Pattern	Length of Jaws	Opening	List, Doz.	Weight, Doz.
No. 706	6 in.	3 in.	\$18.00	14 lbs.
No. 708	8 in.	4½ in.	21.00	28 lbs.
No. 710	10 in.	6 in.	24.00	36 lbs.
No. 712	12 in.	8½ in.	27.00	58 lbs.
No. 714	14 in.	10 in.	30.00	72 lbs.
No. 716	16 in.	12 in.	36.00	96 lbs.
No. 718	18 in.	14 in.	42.00	108 lbs.

Non-adjustable pattern (opening and closing the jaws parallel) can be furnished when desired.

CIRCLE METAL CUTTER No. 1406



For cutting circular holes in sheet metal, wood or fiber. Useful for electricians, auto mechanics, sheet metal workers, etc.

The body of the tool is malleable iron, and the blades of best tool steel, ground and tempered for cutting metal.

Capacity for cutting circles from $1\frac{1}{4}$ in. to 6 in. in diameter to $\frac{7}{8}$ in. deep.

No. 1406 with center drill to bore hole. Each.....\$3.50

Also furnished with $\frac{1}{2}$ in. Round Shank or No. 1 Morse Taper Shank, and High Speed Steel Knives.

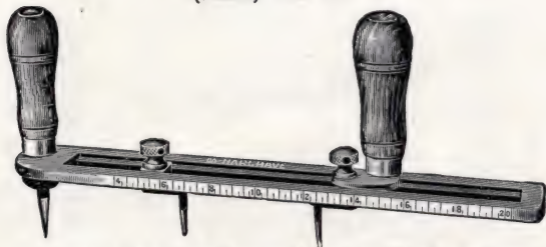
WASHER CUTTER
(Brace) No. 407

Capacity, $\frac{7}{8}$ in. to 6 in. Used for cutting gaskets from sheet lead, thin wood, leather, paper or rubber, cutting both inner and outer circle at the same time. Used with any ordinary brace.

Stock No. 407—6 in., with gauge. Each.....\$2.95

Stock No. 409—Knives only. Each......75

Stock No. 410—Screws only. Each......25

WASHER CUTTER—20 in.
(Hand) No. 411

This tool is adapted to cutting gaskets from 4 to 20 inches in diameter.

Stock No. 411—Price, each.....\$2.75

Stock No. 409—Price, each, knives only......75

Stock No. 410—Price, each, screws only......25

COLD CHISELS No. 200



All HARGRAVE Chisels, Punches, Star Drills, Stone Points, etc., are Hand Forged from Special Analysis Alloy Steel.

The width of the blade of our Cold Chisels is the same as the diameter of the stock, which gives a massive durable tool and one which does not sting the hand.

Regular length Chisels and all styles of Punches are finished with Bright Dark Blue Lacquered Body and Polished Blades.

Enclosed in Individual Cellophane wrappers

COLD CHISELS

Width Blade	Length	Doz.
$\frac{1}{4}$ in.	5 in.	\$ 3.00
$\frac{1}{8}$ in.	5 in.	3.30
$\frac{3}{8}$ in.	5 in.	3.60
$\frac{1}{2}$ in.	6 in.	4.20
$\frac{5}{8}$ in.	$6\frac{1}{2}$ in.	5.00
$\frac{3}{4}$ in.	$7\frac{1}{2}$ in.	6.60
$\frac{7}{8}$ in.	8 in.	8.00
1 in.	$8\frac{1}{2}$ in.	10.00

CAPE No. 223



HALF-ROUND No. 233



Cape, Half-Round, Diamond Point and Round-Nose Chisels

Cutting Edge	List Price, Dozen	Length	Size, Stock
$\frac{1}{8}$ in.	\$4.20	$4\frac{1}{2}$ in.	$\frac{1}{8}$ in.
$\frac{1}{4}$ in.	4.80	5 in.	$\frac{3}{8}$ in.
$\frac{3}{8}$ in.	5.40	$6\frac{1}{2}$ in.	$\frac{1}{2}$ in.
$\frac{1}{2}$ in.	6.00	7 in.	$\frac{5}{8}$ in.
$\frac{3}{4}$ in.	6.60	$7\frac{1}{2}$ in.	$\frac{5}{8}$ in.
$\frac{1}{2}$ in.	7.50	8 in.	$\frac{3}{4}$ in.
$\frac{5}{8}$ in.	8.00	8 in.	$\frac{3}{4}$ in.
$\frac{3}{4}$ in.	9.00	$8\frac{1}{2}$ in.	$\frac{7}{8}$ in.
$\frac{7}{8}$ in.	12.00	9 in.	1 in.

DIAMOND POINT 243



ROUND-NOSE No. 253



Packed one-half dozen in a box.

Enclosed in Individual Cellophane wrappers

Ask about our TRIPLE TEST for each individual Chisel, Punch and Star Drill.

See page 17.

DRIFT PUNCHES No. 630



For driving out pins and bushings and lining up bolt and rivet holes.
Hand forged. Point hardened and tempered.

Point.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$
Steel.....	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{3}{4}$
Length.....	10	10	10	10
Taper.....	$5\frac{1}{4}$	$4\frac{3}{4}$	$4\frac{3}{4}$	5
Dozen.....	\$7.00	\$7.00	\$7.00	\$8.00

LINING-UP PUNCHES No. 620

Point.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$
Steel.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
Length.....	10	12	12	12	18
Taper.....	7	$8\frac{1}{2}$	7	$8\frac{1}{2}$	9
Dozen.....	\$7.00	\$8.00	\$8.00	\$10.00	\$14.00

SOLID PUNCHES No. 263



Point.....	$\frac{5}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{3}{8}$	$\frac{1}{2}$
Steel.....	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{5}{8}$
Length.....	5	$5\frac{1}{2}$	6	$6\frac{1}{2}$	7	8
Dozen.....	\$3.30	\$3.60	\$3.90	\$4.20	\$5.00	\$6.00

PIN PUNCHES

No. 2866—6 in., $1\frac{1}{8}$ in. Pin.

No. 2869—9 in., $3\frac{1}{8}$ in. Pin



Point.....	$\frac{3}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
Steel.....	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Length.....	6	6	6	6	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Dozen.....	\$5.00	\$5.00	\$5.00	\$5.00	\$7.00	\$7.00	\$7.00

CENTER PUNCHES No. 284



Diameter of steel.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Length.....	$3\frac{1}{2}$	5	6
Dozen.....	\$2.70	\$3.60	\$4.80

PRICK PUNCHES No. 2873



Diameter of steel.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Length.....	$3\frac{1}{2}$	$5\frac{1}{2}$	6
Dozen.....	\$2.70	\$3.60	\$4.80

Enclosed in Individual Cellophane wrappers

EXTRA LONG COLD CHISELS No. 205



Width Blade	Length	Doz.	Width Blade	Length	Doz.
$\frac{1}{2}$ in.	8 in.	\$ 4.50	$\frac{5}{8}$ in.	18 in.	\$ 9.00
$\frac{5}{8}$ in.	8 in.	5.50	$\frac{3}{4}$ in.	18 in.	10.00
$\frac{1}{2}$ in.	10 in.	5.00	$\frac{7}{8}$ in.	18 in.	12.00
$\frac{5}{8}$ in.	10 in.	6.00	1 in.	18 in.	15.00
$\frac{3}{4}$ in.	10 in.	7.00	$1\frac{1}{4}$ in.	18 in.	23.00
$\frac{7}{8}$ in.	10 in.	8.50	$\frac{3}{4}$ in.	24 in.	13.00
1 in.	10 in.	11.00	$\frac{7}{8}$ in.	24 in.	15.00
$\frac{1}{2}$ in.	12 in.	5.50	1 in.	24 in.	20.00
$\frac{5}{8}$ in.	12 in.	6.50	$1\frac{1}{4}$ in.	24 in.	28.00
$\frac{3}{4}$ in.	12 in.	7.50	$1\frac{1}{2}$ in.	24 in.	48.00
$\frac{7}{8}$ in.	12 in.	10.00	$1\frac{1}{4}$ in.	36 in.	39.00
1 in.	12 in.	12.00	$1\frac{1}{2}$ in.	36 in.	64.00

STONE (BULL) POINTS No. 584



Size	List, Doz.	Size	List, Doz.
$\frac{3}{4}$ x 9 in.	\$ 7.00	$1\frac{1}{8}$ x 18 in.	\$21.00
$\frac{3}{4}$ x 12 in.	7.50	$1\frac{1}{4}$ x 18 in.	23.00
$\frac{7}{8}$ x 12 in.	10.00	1 x 24 in.	20.00
1 x 12 in.	12.00	$\frac{1}{4}$ x 24 in.	28.00
1 x 15 in.	14.00	$1\frac{1}{2}$ x 24 in.	48.00
$\frac{7}{8}$ x 18 in.	12.00	$1\frac{1}{4}$ x 36 in.	39.00
1 x 18 in.	15.00	$1\frac{1}{2}$ x 36 in.	64.00

STAR DRILLS No. 800



Diameter	8-inch Doz.	12-inch Doz.	18-inch Doz.	24-inch Doz.
$\frac{1}{4}$ in.	\$ 8.25	\$ 8.50		
$\frac{5}{16}$ in.	8.25	8.50		
$\frac{3}{8}$ in.	8.25	8.50		
$\frac{7}{16}$ in.	8.70	9.00		
$\frac{1}{2}$ in.	9.65	10.00	\$12.50	
$\frac{5}{8}$ in.	11.65	12.00	15.00	
$\frac{3}{4}$ in.	13.70	14.00	17.50	\$20.00
$\frac{7}{8}$ in.		16.00	20.00	22.50
1 in.		18.00	22.50	25.00
$1\frac{1}{8}$ in.		24.00	28.00	
$1\frac{1}{4}$ in.		30.00	35.00	40.00
$1\frac{3}{8}$ in.			45.00	
$1\frac{1}{2}$ in.			56.00	62.00

Prices for larger sizes on request

All tools listed above have black finish with blue end

Ask about our TRIPLE TEST for each individual Chisel, Punch and Star Drill

They must be **TOUGH**
to stand this **TEST**



HARGRAVE

**ALLOY
STEEL
COLD
CHISELS**

Cut Faster

Last Longer



Each one is put in the drop test to show flaws. Each one is then reversed and the other side is tested for flaws. Each one must cut a chip from heat-treated spring steel which is nearly as hard as the tool being tested, and the edge must stand it.

So—we know that you are getting practically 100% perfect tools from us.

But—you can still break them by repeated bending or wedging or cutting with one corner and a heavy hammer. And—chisels will not cut chilled iron or hardened steel. A Torch should be used for such work.

Hargrave PUNCHES and STAR DRILLS are also individually tested.

V-FLAT STAR DRILLS FOR ELECTRIC AND PNEUMATIC HAMMERS

(Patented)

The HARGRAVE "V-Flat" STAR DRILL cuts faster and shows less wear because the construction of the "V-Flat" Point distributes the cutting action more uniformly over the surface being drilled than any other type of point.

It is much more easily sharpened with a file on a wheel than the four-point Star Drill.

Trip-Hammer Forged from special analysis steel and properly tempered. Individually TESTED for HARDNESS and TOUGHNESS before going into stock, insuring satisfactory service.

Furnished in the following sizes to fit HARGRAVE Chucks, also Chucks for Black & Decker and Van Dorn, Syntron and Millers Falls Electric Hammers.

For other makes of hammers it is necessary to use them with the HARGRAVE Chucks—listed on opposite page.

In ordering, specify by number which taper is required on each size of drill.

LIST PRICE, EACH

Specify Hargrave Taper Number in Ordering

Size Drill	5-inch	8-inch	12-inch	18-inch	24-inch
1/4 in.	\$0.90	\$0.90			
5/16 in.	.90	.90			
3/8 in.	.90	.90			
7/16 in.	.95	.95			
1/2 in.	.95	.95	\$1.05		
5/8 in.		1.05	1.15	\$1.25	
3/4 in.		1.05	1.15	1.25	

Furnished with either No. 5 TAPER, which fits Black & Decker and Van Dorn Chucks, or No. 10 TAPER, which fits Syntron and Millers Falls Chucks.

1 1/8 in.	\$1.25	\$1.40	\$1.50
3/4 in.	1.25	1.40	1.50
7/8 in.	1.60	1.70	1.80
1 in.	1.90	2.10	2.30
1 1/8 in.		2.40	2.70

Furnished with either No. 6 TAPER, which fits Black & Decker and Van Dorn Chucks, or No. 11 TAPER, which fits Syntron and Millers Falls Chucks.

1 1/4 in.	\$2.80	\$3.20	
1 3/8 in.	3.20	3.70	\$4.20
1 1/2 in.	3.70	4.30	4.90

Furnished with No. 12 TAPER, which fits Black & Decker and Van Dorn Chucks, also Syntron and Millers Falls Chucks.



(Patented) WE ALSO MAKE STAR DRILLS FOR HAND USE

HARGRAVE CHUCKS FOR ELECTRIC AND PNEUMATIC HAMMERS

No. 120

The use of HARGRAVE Chucks eliminates the necessity of carrying duplicate stocks of Hammer Tools for various hammers.

Made of alloy steel, heat treated; light but strong. No excess weight to absorb hammer blow.

This Chuck or Adapter can be furnished with shank to fit any standard make of Electric or Pneumatic Hammer and with taper tool socket to take HARGRAVE "V-Flat" STAR DRILLS. The vibration-proof handle affords ease of operation.

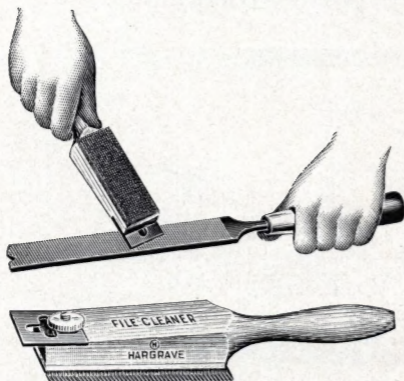


HARGRAVE CHUCK (Adapter) with handle. List, each...\$5.60

In ordering for Electric Hammers, specify MAKE and SIZE of hammer. Also give our number for TAPER which you wish the Tool Socket to take. (See listing of HARGRAVE Taper numbers on opposite page.)

FILE CLEANER (With the Chip Plow)

No. 366—Patent Pending



The plate or scraper is fastened to the handle of our No. 364 File Cleaner and the four edges may be used at will. By striking the edge on the file to be cleaned the tooth pattern is impressed in the soft metal. The scraper is then pushed parallel to the file grooves so that it plows out the imbedded dirt and chips such as produced when filing lead, copper, aluminum and soft steel.

No. 366—File Cleaner with Chip Plow.....List, Dozen \$9.00
 No. 364—File Cleaner without Chip Plow.....List, Dozen 6.00

PLUGGING CHISELS No. 963



Cutting Edge	List Price, Doz.	Length	Diameter Steel	Weight, Doz.
$\frac{1}{8}$ in.	\$7.20	10 in.	$\frac{1}{2}$ in.	6 lbs. 3 oz.
$\frac{1}{4}$ in.	7.80	10 in.	$\frac{5}{8}$ in.	9 lbs. 5 oz.

Packed one-half dozen in a box

FLOOR CHISELS No. 950



Size	List, Doz.	Weight, Doz.
$2\frac{1}{2}$ x $\frac{5}{8}$ x 11 in.	\$18.00	12 lbs.
3 x $\frac{5}{8}$ x 12 in.	21.00	14 lbs.

ALL-STEEL WOOD CHISELS No. 577



Cutting Edge	Diameter Steel	Length	List, Doz.
$\frac{1}{2}$ in.	$\frac{1}{2}$ in.	10 in.	\$11.00
$\frac{3}{4}$ in.	$\frac{5}{8}$ in.	12 in.	13.00
1 in.	$\frac{5}{8}$ in.	12 in.	15.00
$1\frac{1}{4}$ in.	$\frac{3}{4}$ in.	12 in.	17.00

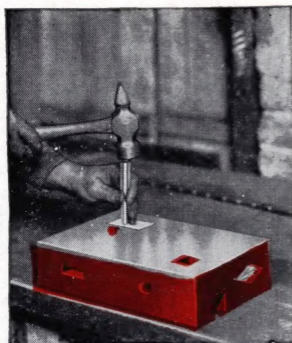
WRECKING CHISELS



Stock	Cutting Edge	Diameter Steel	Length	List, Doz.
No. 582—Straight	$1\frac{1}{2}$ in.	$\frac{3}{4}$ in.	18 in.	\$15.00
No. 583—Bent	$1\frac{1}{2}$ in.	$\frac{3}{4}$ in.	18 in.	16.00

UNIVERSAL BENCH ANVIL

(Patent Pending)



One of the most useful tools in the shop. It combines the solid base of an anvil, on a bench, at a convenient height, with many of the advantages of a vise. Surface ground flat to close limits.

It is built to stand the "gaff" that would wreck an ordinary vise, and there is nothing to open and close. It is always ready for service, and saves time, energy and trouble. Threaded holes permit anchoring to the bench.

Solid Steel Heat-Treated Top

	Top	Height	Weight	Price
No. 25	6 x 9 in.	2 1/4 in.	13 1/2 lbs.	\$10.00
No. 26	8 x 12 in.	2 7/8 in.	29 lbs.	15.00

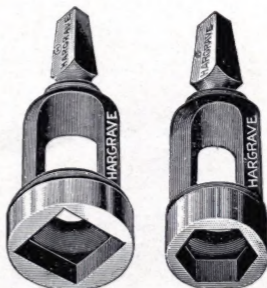
Dimensions of Holes in Anvils

	Face	Side
Square 1 in.	Round 5/8—3/8 in.	Flat 3/8 x 1 7/8 in.
		Round 3/4 in.

BRACE WRENCHES—Square and Hexagon

Made of Malleable Iron, Hardened

Square Stock No.	Hexagon Stock No.	List Price Doz.	Size Opening, Inches
151	165	\$ 3.50	5/16
152	166	3.50	3/8
153	167	4.00	7/16
154	168	4.50	1/2
155	169	5.00	11/16
156	170	6.00	5/8
1560	171	6.50	11/8
157	172	7.00	25/32
158	173	7.50	7/8
159	1731	8.00	1
160	1732	9.00	1 1/8
161	1733	10.00	1 1/4



PRICES in this Catalog are LIST. Ask for discounts.



HARGRAVE

J. A. HAGGSTROM

DISTRIBUTOR

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